

**Proposal presented by:** Puerto Rico Forest Bureau  
Department of Natural and Environmental Resources  
P.O. Box 366147  
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### **Forest Health Assessment and Management Applications**

**Project Leader:** Edgardo Gonzalez

**Abstract:** The dynamics of introduction and spread of non-native vegetation, the health effects within the resilient tropical forest ecosystems, and the role the islands play in transmitting tropical pests to the mainland US will be target in this project. The project consists of two phases: the assessment and management applications. First the assessment will integrate the reports and data related to forest health issues documented in Puerto Rico and the information will be used to develop a digital data base with geographical information to develop a geographical information layer of areas of concerns, forest health problem identified or insect reports and any other information that can be considered as attribute for a geographical information system analysis with the vegetation coverage available for the island. The second phase will integrate field verification according to the first phase results to develop the Puerto Rico Forest Health Report and Management Recommendations. The report will include the identification of the forest health problems reported for the island and the application of management practices considered and recommended for the identified cases. The project will provide a critical data base and geographical analysis that can be considered for other areas and that might help to identify potential forest health problems that can be introduce to continental United State.

#### **Partnering Agencies and Groups/Individuals**

Servicio de Extencion Agrícola Universidad de Puerto Rico Mayagüez  
El Yunque Nacional Forest  
IITF  
FIA  
Departamento de Agricultura de Puerto Rico

**Project Location :** Puerto Rico

**Expected Completion Quarter :** Q4 2009

**Total Federal Funding Request :** \$100,000.00

**Total Proposal Budget :** \$200,000.00

- 2. Project Description:** The proposed project will produce the first assessment of forest health condition for Puerto Rico. The forest health reviews have been performed by different entities but not under an integrated analysis producing the fragmentation of information. For effective consideration of forest health management and to integrate a program to work and centralize this issues the Puerto Rico Forest Service Bureau (PRFSB) is presenting this project. The project integrates the use of permanent personnel of the Puerto Rico Forest Service Bureau (PRFSB) as project managers under the project leader. This procedure facilitates the use of permanent personnel that will receive additional duties as part of their tasks. This process not only eliminates the process of contracting personnel but it also provides an on duty training to the employees.

**1) Assessment of the Forest Health Condition in the Puerto Rico Landscape.**

- a. Data Collection: Collection of reports, documents, studies and historical information. Special attention will be on geographical data, site locations and digital information that can be used for a GIS analysis. (months 1 – 6)
- b. Integration of Partners: create the Puerto Rico Forest Health Committee (PRFHC); a working committee of the project. The PRFHC will be an advisory committee to the PRFSB and will be consulted for additional data to be considered in the data base and for the second phase of the project (month 5 – 24)
- c. Report and Data Base: A report that integrates geographical information layers and analysis using the vegetation coverage data will produce and evaluated with the assistance of the PRFHC. The report will also include a digital data base that will be available for the participating agencies and that will be the working document for the second phase of the project. A map of incidence of forest health issues will be developing as a product of the report. A map of areas of forested areas of concern will be developed using the vegetation coverage information available for Puerto Rico. (months 7 – 12)

**2) Forest Health Management Applications :**

- a. Forest Health Seminars and Workshops: a series of seminars and workshops for the field technicians and forest managers of the PRFB will be prepared with the assistance of the partners of the proposal. The workshops will include: i) presentation of the assessment results; ii) train the personnel in the identification of forest health conditions; iii) field visits; iv) development of report for forest health situations and v) discussion of potential management practices to reduce or control forest health conditions and protocol of response for critical forest health situations. (months 13 – 18).
- b. Data Base Update: from the workshops the data base and geographical information of the forest health conditions will be revised and updated. A brochure of the Puerto Rico Forest Health Condition will be prepared in English and Spanish to consider the potential use of the information in Puerto Rico and in the Caribbean Basin. A review of the data base with mainland US Forest Health specialist will be done to identify common conditions and potential threats to the islands or mainland US. Management practices developed through the workshops will be included in the document in addition to a contact process through the PRFB or identified partners so that the land owners and the general public can report forest health problems.

**3. Evaluation Criteria Discussion:** (2 pages maximum) Each proposal must address each criterion **in order**. See above for description of each.

- National and Regional Relevance : The dynamics of introduction and spread, the health effects within the resilient tropical forest ecosystems, and the role the islands play in transmitting tropical pests to the mainland US are still being investigated.
- Prioritization : The South is host to an increasing variety of invasive plants; insects and diseases that if not addressed effectively, will continue to result in significant economic losses to landowners and ecological damage to already stressed forested ecosystems.
- Meaningful Scale : the project will produce significant information for Caribbean Basin and the Southern States. The propose project can also be important to other territories with similar tropical conditions.
- Collaboration : Servicio de Extinción Agrícola Universidad de Puerto Rico Mayagüez El Yunque Nacional Forest IITF FIA Departamento de Agricultura de Puerto Rico
- Outcomes The project will have multiple outcomes: the integration of data and the development of a digital data base, two main maps will be produce to illustrate areas with historical data of forest health problems and areas with potential forest health problems according to the vegetation coverage and the forest health condition identified. The Puerto Rico Forest Health Committee will be permanently established as an advisory committee to the PRFSB. A series of seminars and workshop will be integrated producing and better prepared personnel and producing a major network of field personnel to maintain an updated data base of the forest health conditions of the island. A brochure of the Puerto Rico Forest Health Condition will be another outcome that will be available in English and Spanish to consider the potential use of the information in Puerto Rico and in the Caribbean Basin. A review with mainland US Forest Health specialist will help to identify common conditions and potential threats to the islands or mainland US. The brochure will also include management practices. A major outcome of the project will be a protocol of response for critical forest health situations and a report process available to the landowners and general public to document forest health problems or conditions.
- Technology : The project integrates field information, historical data collection and the integration of new technology to produce a digital data base and GIS analysis. The project will also integrate FIA information.
- Integrated Delivery – the project will improve the delivery of public benefits from forest management with the creation of the Puerto Rico Forest Health Committee. This group will integrate state, federal and private programs that have been working in forest health issues but not in an integrated format. The integrated delivery not only will deliver public benefits but will also prepare field personnel to maintain a forest health program in Puerto Rico.
- Leverage The project integrates multiple partners and the participation of the Extension Service and the University of Puerto Rico at Mayaguez will be a

major contribution to the project because of their technical and personnel resources.

- Influence Positive Change: The project can be an example of integrated work because of the series of partners participating. The Given the economic and ecologic significance of Southern forests and the forces of change acting on them, careful attention to forest health issues has been identified as a critical factor. The project will also create a permanent advisory committee that will strength the discussion and technology transfer of forest health issues between the mainlands US and the territories.
- Timeliness: The project is schedule for two years because of its multiple tasks and outcomes. A project manager will work with the project leader to assure the timeliness of the project. The project manager will use 50% of its time for the project and will receive a salary compensation for the integration of new responsibilities and tasks.